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10/543,099	07/22/2005	Hisao Kogoi	Q74015	5674
23373	7590	12/10/2007	EXAMINER	
SUGHRUE MION, PLLC			KOSLOW, CAROL M	
2100 PENNSYLVANIA AVENUE, N.W.			ART UNIT	
SUITE 800			PAPER NUMBER	
WASHINGTON, DC 20037			1793	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/543,099

**Applicant(s)**

KOGOI ET AL.

**Examiner**

C. Melissa Koslow

**Art Unit**

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 1 and 11-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-7, 9 and 10 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

Applicant's election without traverse of Group II, claims 2-10 in the reply filed on 26 October 2007 is acknowledged.

Claims 1 and 11-28 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions, there being no allowable generic or linking claim.

The amendment to the claims filed on 29 October 2007 does not comply with the requirements of 37 CFR 1.121(c) because the status modifier for claim 1 is incorrect. It should be "(withdrawn)" not "(original)". Amendments to the claims filed on or after July 30, 2003 must comply with 37 CFR 1.121(c) which states:

(c) *Claims.* Amendments to a claim must be made by rewriting the entire claim with all changes (e.g., additions and deletions) as indicated in this subsection, except when the claim is being canceled. Each amendment document that includes a change to an existing claim, cancellation of an existing claim or addition of a new claim, must include a complete listing of all claims ever presented, including the text of all pending and withdrawn claims, in the application. The claim listing, including the text of the claims, in the amendment document will serve to replace all prior versions of the claims, in the application. In the claim listing, the status of every claim must be indicated after its claim number by using one of the following identifiers in a parenthetical expression: (Original), (Currently amended), (Canceled), (Withdrawn), (Previously presented), (New), and (Not entered).

(1) *Claim listing.* All of the claims presented in a claim listing shall be presented in ascending numerical order. Consecutive claims having the same status of "canceled" or "not entered" may be aggregated into one statement (e.g., Claims 1-5 (canceled)). The claim listing shall commence on a separate sheet of the amendment document and the sheet(s) that contain the text of any part of the claims shall not contain any other part of the amendment.

(2) *When claim text with markings is required.* All claims being currently amended in an amendment paper shall be presented in the claim listing, indicate a status of "currently amended," and be submitted with markings to indicate the changes that have been made relative to the immediate prior version of the claims. The text of any added subject matter must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strike-through cannot be easily perceived. Only claims having the status of "currently amended," or "withdrawn" if also being

amended, shall include markings. If a withdrawn claim is currently amended, its status in the claim listing may be identified as “withdrawn—currently amended.”

(3) *When claim text in clean version is required.* The text of all pending claims not being currently amended shall be presented in the claim listing in clean version, *i.e.*, without any markings in the presentation of text. The presentation of a clean version of any claim having the status of “original,” “withdrawn” or “previously presented” will constitute an assertion that it has not been changed relative to the immediate prior version, except to omit markings that may have been present in the immediate prior version of the claims of the status of “withdrawn” or “previously presented.” Any claim added by amendment must be indicated with the status of “new” and presented in clean version, *i.e.*, without any underlining.

(4) *When claim text shall not be presented; canceling a claim.*

(i) No claim text shall be presented for any claim in the claim listing with the status of “canceled” or “not entered.”

(ii) Cancellation of a claim shall be effected by an instruction to cancel a particular claim number. Identifying the status of a claim in the claim listing as “canceled” will constitute an instruction to cancel the claim.

(5) *Reinstatement of previously canceled claim.* A claim which was previously canceled may be reinstated only by adding the claim as a “new” claim with a new claim number.

The effective filing date for this application is 23 January 2004.

Applicant cannot obtain benefit of the provisional application 60/443,529 since it is in Japanese and there no English translation of the provisional application and statement that the translation is accurate filed in the provisional application. (see 37 CFR 1.78(a)(5)). In order to obtain benefit, applicants need to file an English translation of the provisional application and statement that the translation is accurate filed in the provisional application and to file a confirmation of the filing translation and statement in this application before applicants file a response to this action or at the same time as when applicants file a response to this action. If applicants do not wish to obtain benefit, they must file an amendment and/or Supplemental Application Data Sheet withdrawing the benefit claim. If applicants fail to take one of the above actions, this application will be abandoned. See MPEP 608.01V.

Claim 5 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The amendment to this claim inserting the limitation that powder B is an "organic oxide" is not found in the specification and thus is new matter.

Claims 5, 7, 9 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear when the claimed step of spraying powder A and powder B into the flame occurs, during the bring step of claim 2, the second bringing step of claim 2 or during both bring steps of claim 2. Claims 7, 9 and 10 are indefinite since it is unclear when powder B is brought into the flame during the process of claim 2. Finally, claims 5 and 7 are indefinite since it is unclear which flame in claim 2 the phrase "the flame" refers, the first, second or both.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 2 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. patent 5,140,005.

This reference teaches forming an powder of a mixture of oxides, where the powder has a particle size in the range of 5-150 microns, passing this powder through a high-temperature

flame formed by use of a combustible gas and a combustion supporting gas, such as oxygen supported acetylene, and then passing this powder through a second high-temperature flame formed by use of a combustible gas, such as, and a combustion supporting gas. This is the claimed method. Thus the reference anticipates the claimed process.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-7, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 6,468,658 in combination with U.S. patent 5,340,781.

U.S. patent 6,468,658 teaches mixing 0.1-30 wt% titania powder, having a particle size in the range of 0.0-0.1 micron, with 70-99.9 wt% of spherical grit blasting powder, such as alumina powder having a particle size in the range of 20-250 microns and passing this mixture through a high temperature flame reactor, having the structure of claim 4, where the flame is formed by use of a fuel gas and nitrogen. While the fuel gas is not defined, it is well known in the art that fuel gases by definition include methane, propane and butane. Thus one of ordinary skill in the art would have found it obvious to use one of these well known fuel gases as the fuel gas of the taught process. U.S. patent 5,340,781 teaches spherical alumina particles can be produced by passing alumina particles through an oxyhydrogen flame (col. 2, lines 59-65), which is a high temperature flame formed by use of a combustible gas (hydrogen) and a combustion-supporting gas (oxygen) and it is known that the particles size of the starting particles is essentially the same as the final size of the spherical particles. Thus it is known in the art to produce spherical

alumina powder having a particle size in the range of 20-250 microns by passing alumina particles having a size of 20-250 microns through an oxyhydrogen flame. Therefore one of ordinary skill in the art would have found it obvious produce spherical alumina powder having a particle size in the range of 20-250 microns by passing alumina particles having a size of 20-250 microns through an oxyhydrogen flame and then to mix 7—99.9 wt% of these spherical alumina particles with 0.1-30 wt% of % titania powder, having a particle size in the range of 0.0-0.1 micron and passing this mixture through a high temperature flame reactor, having the structure of claim 4, where the flame is formed by use of a fuel gas and nitrogen. This suggested process teaches the claimed method since there is no indication in the claims when powder B is added during the process of claim 2 and thus the claims encompass the process when powder B is added before the claimed bringing step of claim 2. The taught spherical alumina particles teach claim 8 since spherical particles by definite must have a spherical degree of about 1. The particle size of the titania particles is less than 1/10 that of the particle of the alumina particles, no matter how the particles are measured and the taught weight percentages overlap those claimed. The references suggest the claimed process.

Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The claimed process of passing a substantially spherical powder composed of an oxide of Al, Mg, Ca, Ti, Si and mixtures thereof through high-temperature flame and then repeating this is not taught or suggested by the cited art of record.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Koslow whose telephone number is (571) 272-1371. The examiner can normally be reached on Monday-Friday from 8:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached at (571) 272-1233.

The fax number for all official communications is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

cmk  
December 7, 2007

  
C. Melissa Koslow  
Primary Examiner  
Art Unit 1793